University of the West of Scotland

Module Descriptor

Title of Module: Research Methods in Computing			
Code: COMP09092	SCQF Level: 9 (Scottish Credit and Qualifications Framework)	Credit Points: 10	ECTS: 5 (European Credit Transfer Scheme)
School:	School of Computing, Engineering and Physical Sciences		
Module Co-ordinator:	Santiago Matalonga		

Summary of Module

This module is designed to provide undergraduate students with the necessary skills and knowledge to undertake a substantial computing-related research project. The module will focus on the nature of research in the area of computing, examining the skills and knowledge necessary in order to specify and design an appropriate research study, as well as justifying the choice of suitable research methods. The module is aimed at allowing students to develop their research and writing skills within the context of undertaking a computing-related research project of their choice.

The skills and knowledge are intended to provide a firm foundation for students who will go on to undertake a computing-related Honours Project, as well as being relevant to research and investigation activities commonly undertaken within many organisations for those student who do not wish to proceed to Honours level.

Students will be introduced to:

- evaluating secondary sources in gathering, synthesising and evaluating information in undertaking a literature review or technical review in their chosen computing-related research area;

- different research methods used for undertaking research in Computing - such as quantitative, qualitative and mixed methods research;

- specific research tools and techniques such as interviews, questionnaires, surveys, observation, case studies, focus groups, simulations, statistical analysis;

- writing a research proposal and recognising the importance of addressing issues relating to research ethics.

Module Delivery Method					
Face-To-Face	**Blended**	**Fully Online**	**HybridC**	**Hybrid 0**	**Work-Based Learning**
☒	☒	☐	☐	☐	☐
See Guidance Note for details.					
If this module is delivered within the BSc (Hons) IT Software Development Programme the 'Blended' module delivery method applies.					

Campus(es) for Module Delivery							
The module will **normally** be offered on the following campuses / or by Distance/Online Learning: (Provided viable student numbers permit) (tick as appropriate)							
Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:	
☒	☒	☒	☒	☐	☐	D&G and NCL	

Term(s) for Module Delivery					
(Provided viable student numbers permit).					
Term 1	☐	Term 2	☒	Term 3	☐

Learning Outcomes: (maximum of 5 statements) **These should take cognisance of the SCQF level descriptors and be at the appropriate level for the module.** At the end of this module the student will be able to:	
L1	Identify, gather and critique relevant information, evidence and arguments from relevant literature and credible sources.
L2	Critically review and evaluate appropriate research methodologies, approaches and techniques relevant to their proposed area of research taking into account theoretical, practical and ethical considerations.
L3	Develop and construct a suitable research proposal and strategy that is justifiable, and is of an appropriate level for Honours research.
Employability Skills and Personal Development Planning (PDP) Skills	
SCQF Headings	During completion of this module, there will be an opportunity to achieve core skills in:

Knowledge and Understanding (K and U)	SCQF Level **9** Gathering, synthesising and evaluating relevant information and data in identifying and justifying clearly stated research question(s), establishing a relevant research methodology that is ethically sound and appropriate to the proposed area of research.
Practice: Applied Knowledge and Understanding	SCQF Level **9** Building upon already acquired skills and knowledge in undertaking a critical analysis of the proposed area of research, identifying and applying relevant research design strategies and methods, identifying appropriate data collection and analysis techniques.
Generic Cognitive skills	SCQF Level **9** The ability to critique the work of other researchers, authors and practitioners, developing clear and coherent arguments in identifying research question(s), research themes, providing a strong justification for the proposed research methodology and research techniques to be adopted.
Communication, ICT and Numeracy Skills	SCQF Level **9** Identifying and discussing relevant software and ICT platforms to support research in the proposed area of research in relation to data collection and data analysis in order to support the stated research aims and objectives.
Autonomy, Accountability and Working with others	SCQF Level **9** Developing the ability to work independently, time manage and show initiative in identifying a relevant and significant area of research which must be justified using appropriate evidence.

Pre-requisites:	Before undertaking this module the student should have undertaken the following:	
	Module Code:	**Module Title:**
	Other:	
Co-requisites	**Module Code:**	**Module Title:**

*Indicates that module descriptor is not published.

Learning and Teaching
In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours.

Lectures and tutorial exercises will be used to explore important concepts and issues relating to this module. Exercises may be undertaken on an individual and/or group basis. Completing the module is likely to involve students engaging in significant independent study of relevant methods and techniques. Where appropriate guest lectures will be used to provide expert insight into particular research areas and specialist techniques/technologies (e.g. computer simulations, statistical analysis techniques).

Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	**Student Learning Hours** (Normally totalling 200 hours): (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture/Core Content Delivery	8
Tutorial/Synchronous Support Activity	10
Personal Development Plan	1
Independent Study	81
	Hours Total 100

**Indicative Resources: (eg. Core text, journals, internet access)

The following materials form essential underpinning for the module content and ultimately for the learning outcomes:

Oates, B. J. (2012) Researching Information Systems and Computing. Sage

Creswell, J.W. (2014) Research Design: Qualitative, Quantitative and Mixed Methods Approaches (4th Edition). Sage

Dawson, C. (2015) Projects in Computing and Information Systems: A Student's Guide. Pearson

Cornford, T. and Smithson, S. (2006) Project Research in Information Systems: A Student's Guide. (2md Edition) Palgrave MacMillan.

Lazar, J., Feng, J.H. and Hochheiser, H. (2009) Research Methods in Human-Computer Interaction. Wiley & Sons.
Click or tap here to enter text.

Please ensure the list is kept short and current. Essential resources should be included, broader resources should be kept for module handbooks / Aula VLE.

Resources should be listed in Right Harvard referencing style or agreed professional body deviation and in alphabetical order.

(**N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)

Attendance and Engagement Requirements

In line with the Student Attendance and Engagement Procedure: Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time.

Equality and Diversity

The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code.

Please ensure any specific requirements are detailed in this section. Module Co-ordinators should consider the accessibility of their module for groups with protected characteristics..

(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)

Supplemental Information

Divisional Programme Board	Computing
Assessment Results (Pass/Fail)	Yes ☐No ☒
School Assessment Board	Business and Applied Computing
Moderator	TBC
External Examiner	T Gaber
Accreditation Details	e.g. ACCA Click or tap here to enter text.
Changes/Version Number	1.2

Assessment: (also refer to Assessment Outcomes Grids below)

This section should make transparent what assessment categories form part of this module (stating what % contributes to the final mark).
Maximum of 3 main assessment categories can be identified (which may comprise smaller elements of assessment).

NB: The 30% aggregate regulation (Reg. 3.9) (40% for PG) for each main category must be taken into account. When using PSMD, if all assessments are recorded in the one box, only one assessment grid will show and the 30% (40% at PG) aggregate regulation will not stand. For the aggregate regulation to stand, each component of assessment must be captured in a separate box. Please provide brief information about the overall approach to assessment that is taken within the module. In order to be flexible with assessment delivery, be brief, but do state assessment type (e.g. written assignment rather than "essay" / presentation, etc) and keep the detail for the module handbook. Click or tap here to enter text.

Assessment 1 – Research Proposal Report (100%) - containing a literature/technical review and research design proposal

(N.B. (i) **Assessment Outcomes Grids** for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed.

(ii) An **indicative schedule** listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Module Handbook.)

Assessment Outcome Grids (See Guidance Note)

Component 1					
Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**	**Learning Outcome (3)**	**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**
Report of practical/field/clinical work	✓	✓	✓	100	

Combined Total for All Components	**100%**	

Change Control:

What	When	Who
Further guidance on aggregate regulation and application when completing template	16/01/2020	H McLean
Updated contact hours	14/09/21	H McLean
Updated Student Attendance and Engagement Procedure	19/10/2023	C Winter
Updated UWS Equality, Diversity and Human Rights Code	19/10/2023	C Winter
Guidance Note 23-24 provided	12/12/23	D Taylor
General housekeeping to text across sections. .	12/12/23	D Taylor

Version Number: MD Template 1 (2023-24)